

# Workflow Diagram Key

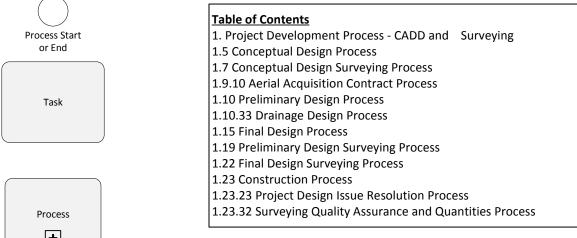
## Phases

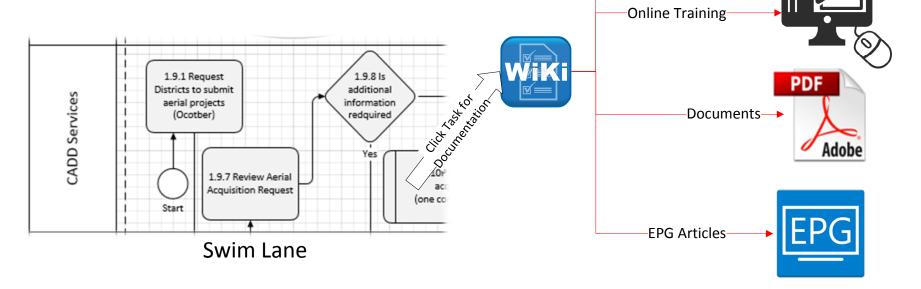
#### **Phase Definitions**

Scoping and Conceptual Design: Beginning until aerial survey and initial field survey is delivered to the Project Team

Preliminary Design: Ends when ROW plans are submitted to District Right of Way

Final Design: Ends when the Electronic Design Checklist is complete and all files submitted to the Bidding and Contracts unit are accepted Construction: Ends when the project as-built plan markups are complete

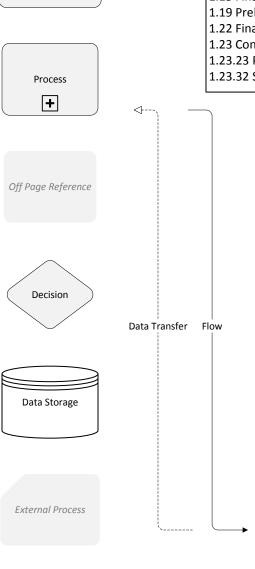




Procedures

### Notes:

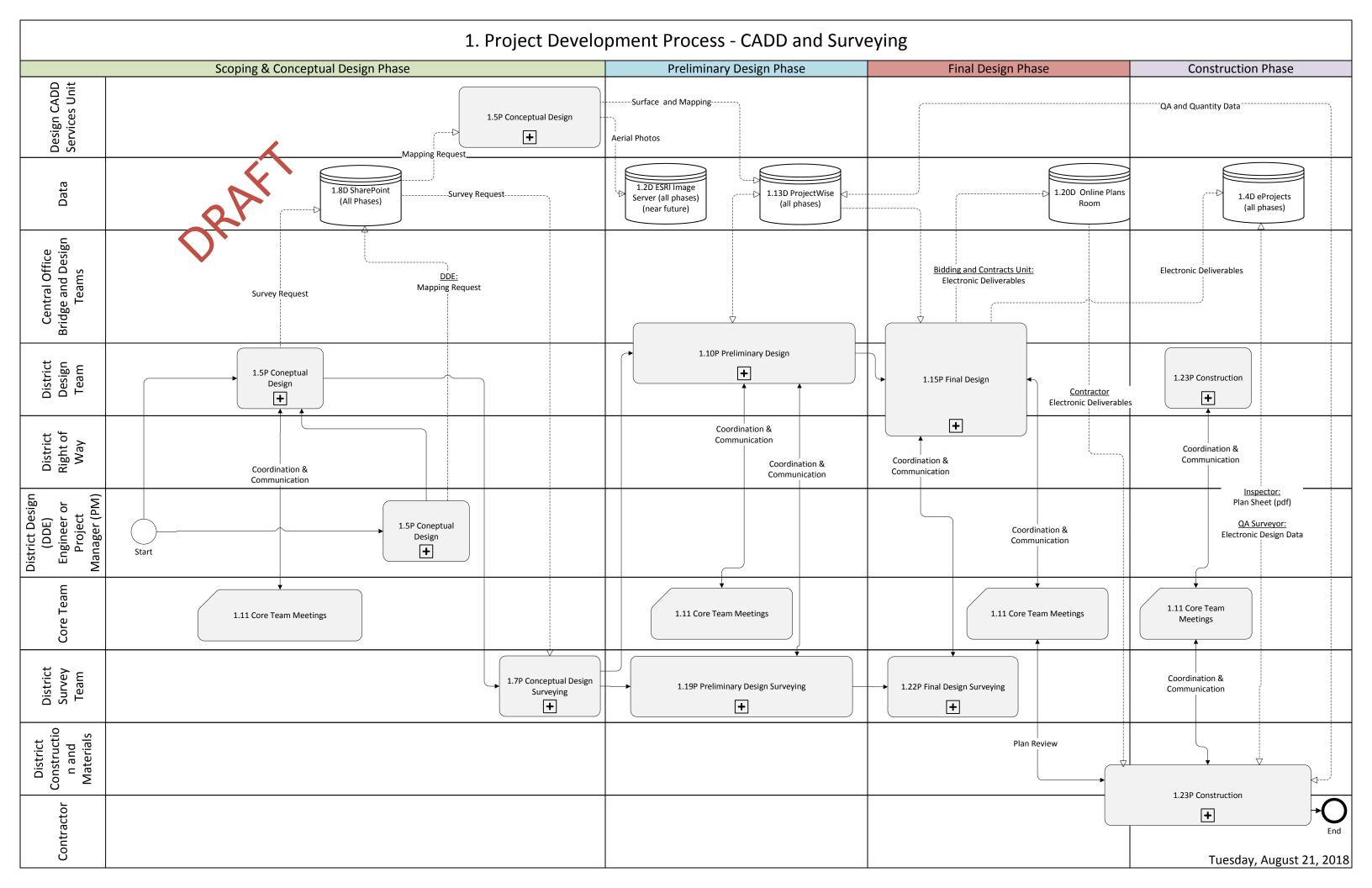
- Process diagrams (also called workflows or workflow diagrams) represents steps in a process and are primarily composed of tasks which represent units of work. Inputs, outputs and decisions are documented but timing and duration are not specifically addressed in the diagram.
- A complete Process Model is a series of steps and decisions involved in the way work is completed and consists of 4 major elements: "Steps and decisions", "variability of work time and flow", "timing and interdependence" and "assignment of resources." The workflow diagram only addresses "Steps and Decisions".
- The relative location of a task on the workflow diagram does not necessarily indicate relative start or end times compared to other swim lanes. Important time frames, due dates and durations may be supplied in the task documentation. Task number does not indicate order. Numbers may be missing as processes are changed and are refined over time.
- The goal of these workflow diagrams is: To track what actually happens during a process, define how a process should or could be performed, establish guidance and patterns which, if followed, would lead to desired performance and provide the rationale of why processes are completed. Process documentation is not meant to heavy handed and reduce the ability of staff to be flexible or create.
- Each shape contains a task or process name and a number that will link it to more documentation and procedures.
- The letter "M" after a task number indicates its completion is a milestone. The letter "C" indicates the task contains a checklist to be completed. The letter "D" indicates data storage. The letter "E" indicates and external process and is not documented. The letter "P" indicates a sub-process which is shown in greater detail on its own diagram.
- Milestones mark specific points along a project timeline that must be reached to achieve success.
- A checklist is used to reduce failure by compensating for potential limits of human memory, attention and training. It helps to ensure consistency and completeness in carrying out a task. They are often considered "hold points" meaning work should not proceed until they are complete.
- A swim lane groups activities under a category. Typically swim lane categories are based on staff role or workgroup. Information transfer to another swim lane is a frequent point of failure or generator of inefficiency. It is important that timely and complete information is provided in the format that is required.
- Each task is documented to provide additional detail in the Tasks and Procedures document. Some tasks are simple and require very little documentation. Some are more involved and include a significant amount of content. Bottom level tasks are where the majority of the work actually occurs. These tasks can require a high level of skill and training and may include procedures and links to detailed instructions, online training or other reference materials.
- All data flow and communication flow lines are not shown for clarity.

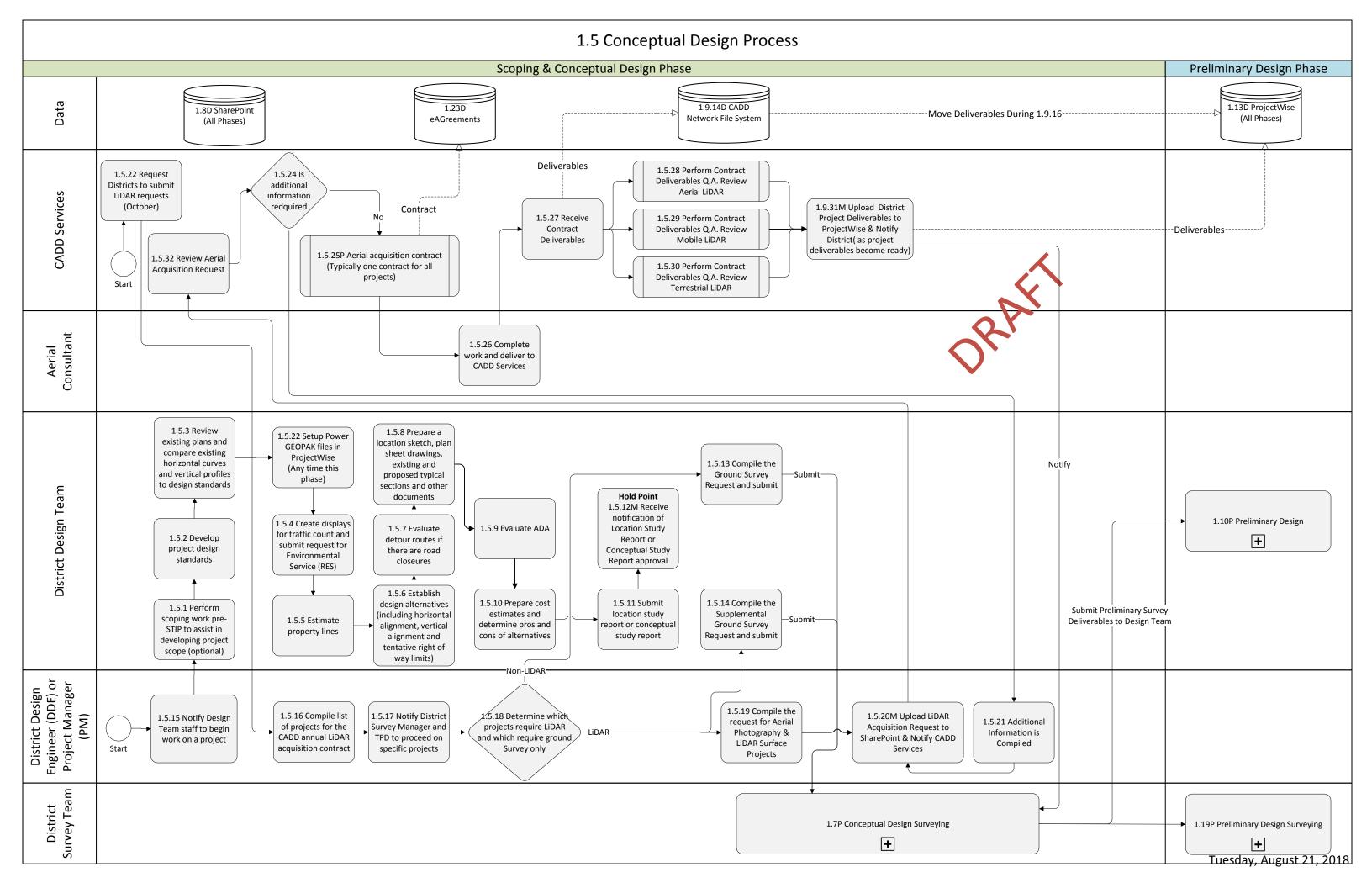


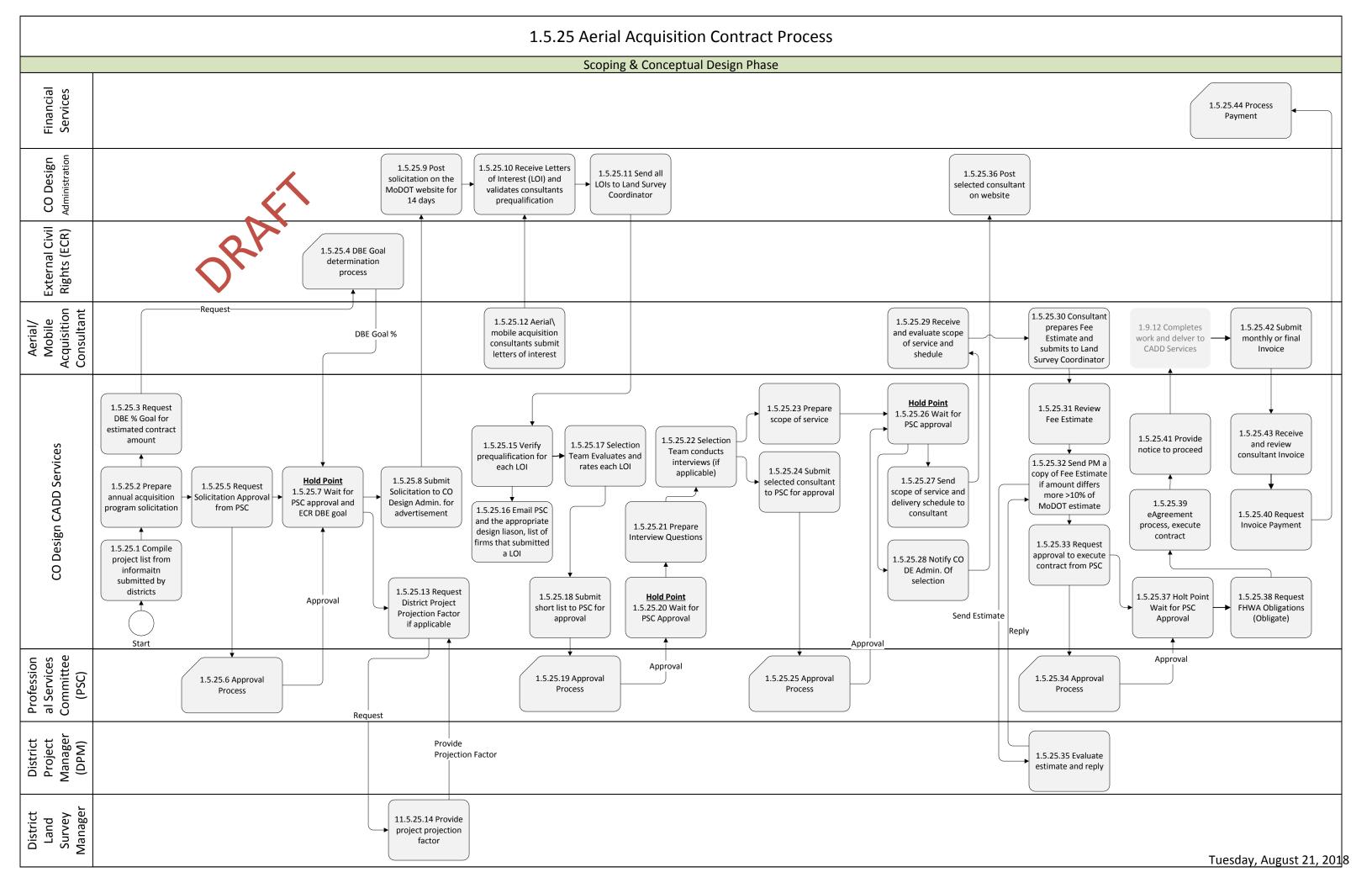
Process

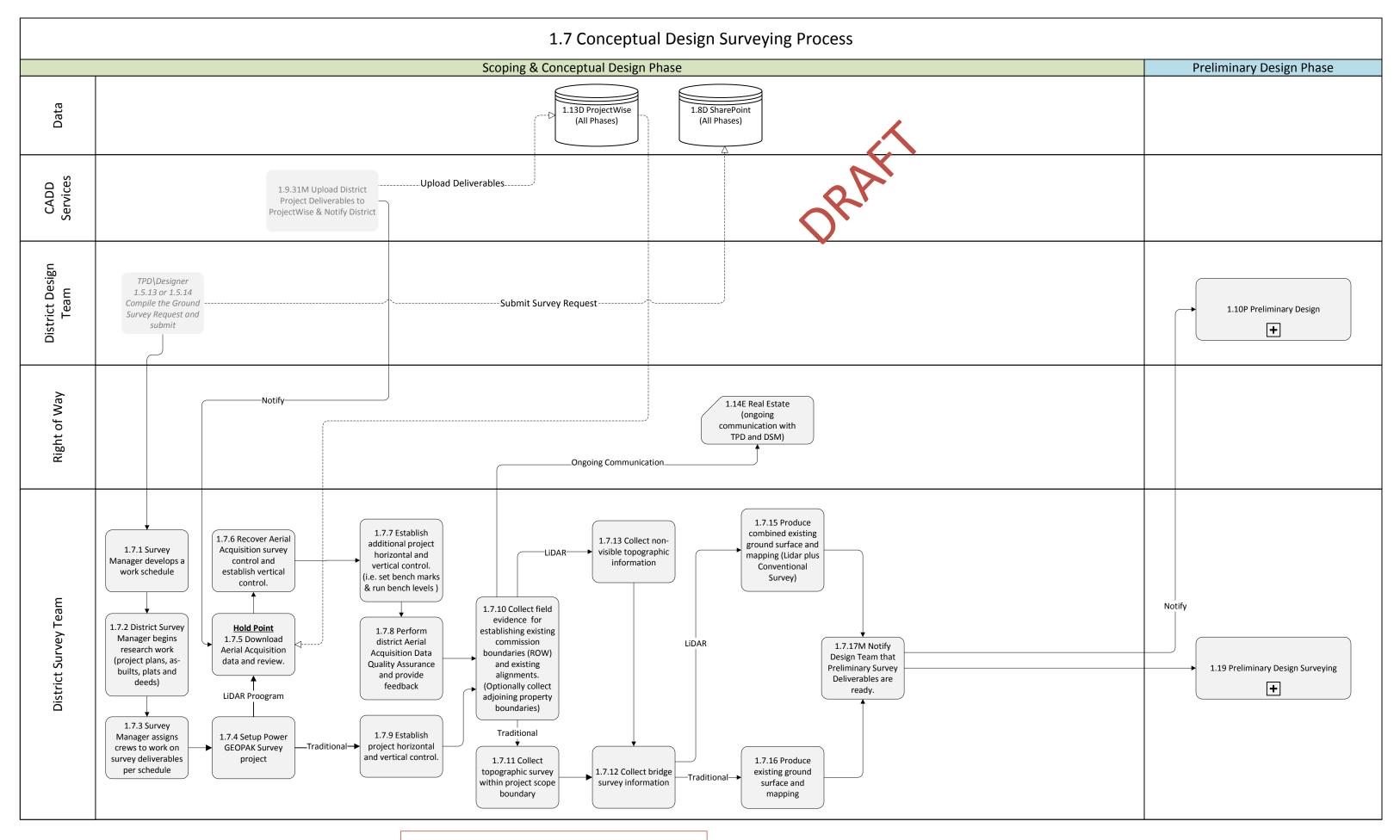
Specific process task

from process on left.



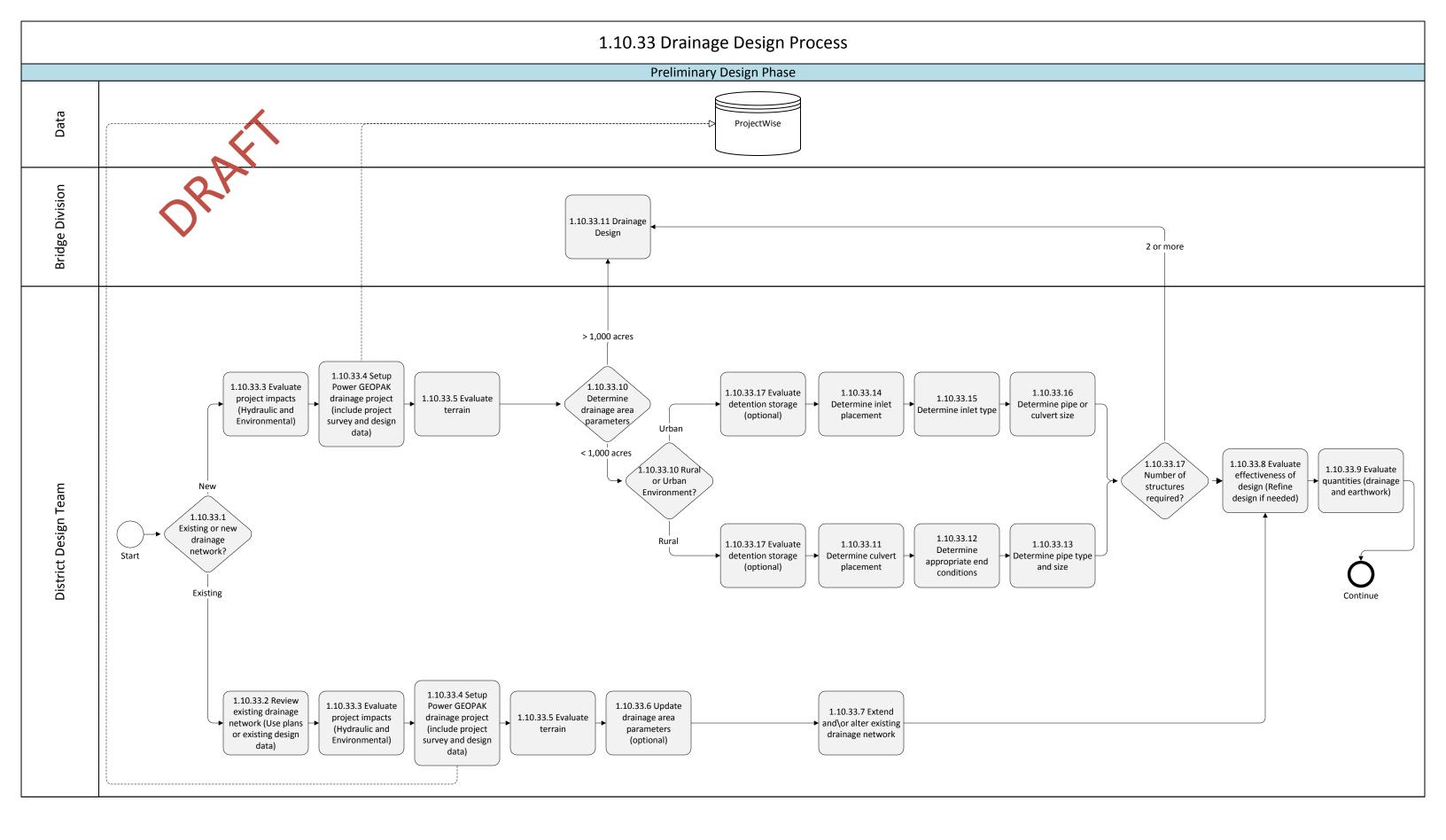


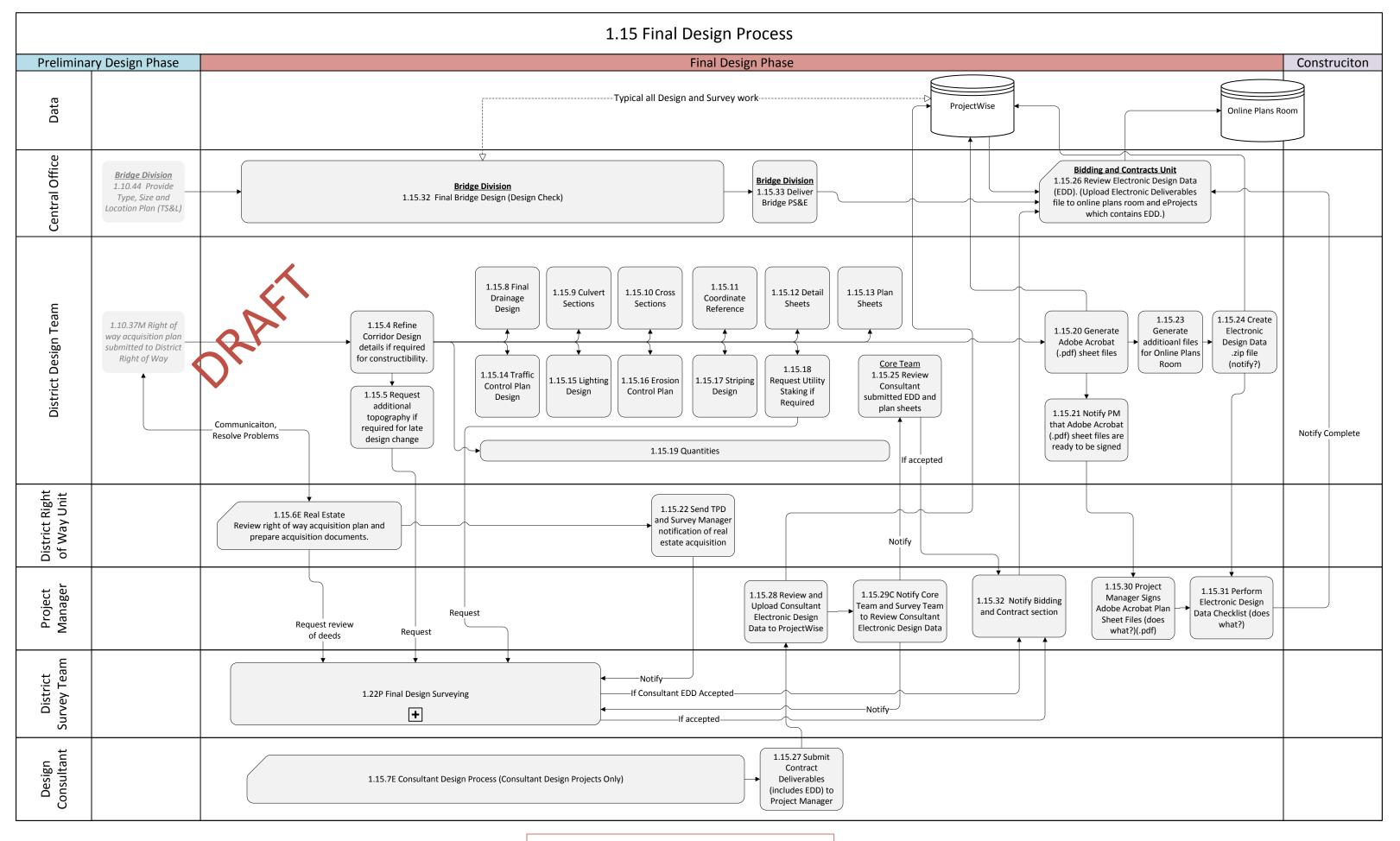


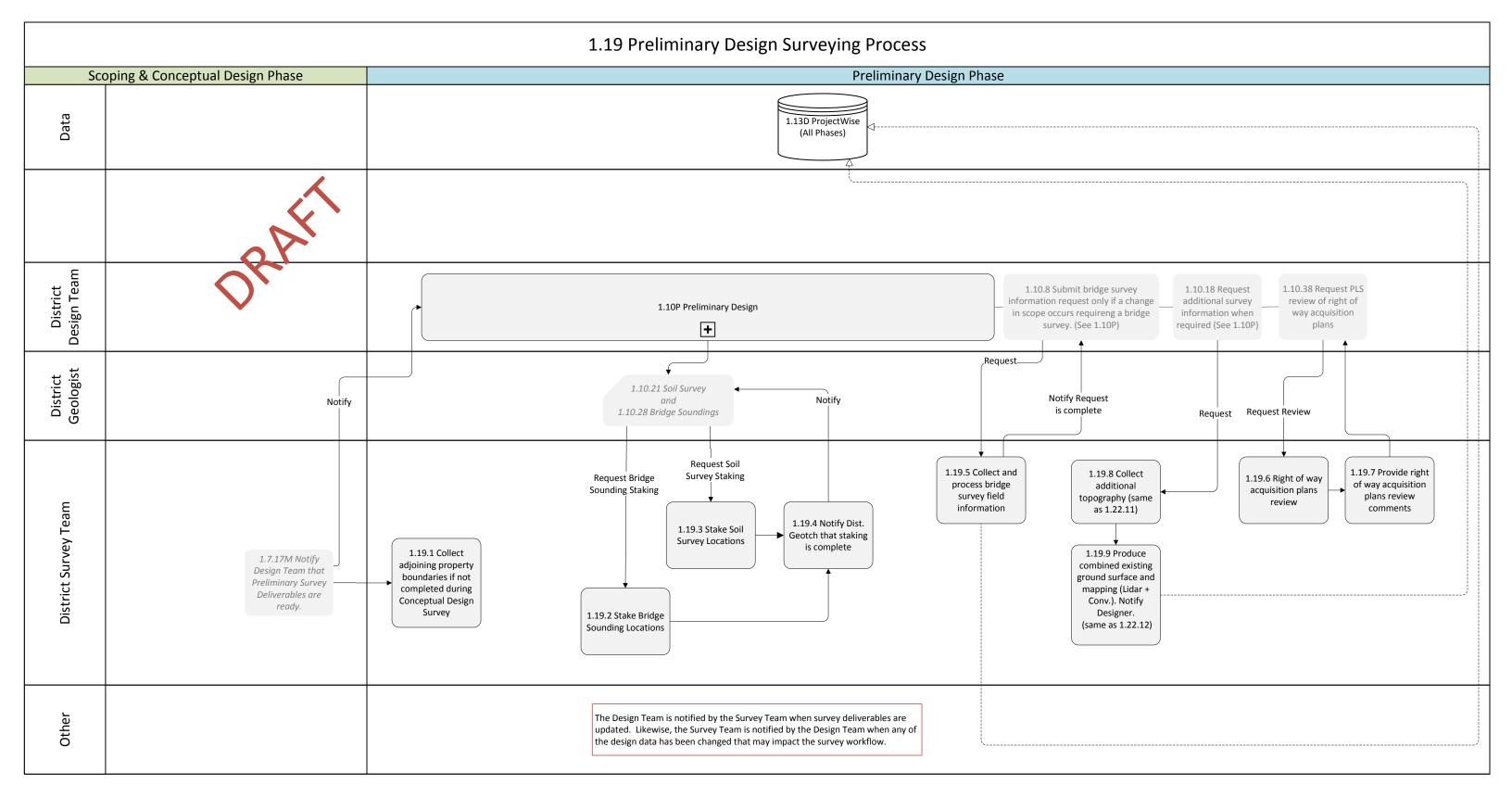


The Design Team is notified by the Survey Team when survey deliverables are updated. Likewise, the Survey Team is notified by the Design Team when any of the design data has been changed that may impact the survey workflow.

#### 1.10 Preliminary Design Process Scoping & Conceptual Design Preliminary Design Phase Final Design Phase Data All Design and Survey work stored in PW ProjectWise Corridor Design can be refined at any point during this phase as new information becomes available **Bridge Division** 1.10.32 Review and 1.10.40 Start 1.10.43 Complete 1.10.44 Provide 1.10.42 Request 1.10.41 Provide Preliminary Bridge process bridge Preliminary Bridge Type, Size and Bridge Memo bridge soundings. Design Design Location Plan (TS&L) survey -Request 1.15P Final Design Communication 1.10.36 Receive 1.10.31 Verfiy and TS&L (i.e. 1.10.5 Determine Corridor Design & Refinement 1.10.33P Drainage Design (Refine adjust coridor bent Preliminary Bridge 1.10.2 Setup Power **Typical Sections** Corridor design as required) locations, evaluate + GEOPAK master files + 1.10.30 Receive earthwork balances, (Refine Corridor (when applicable) Bridge Memo 1.10.9 Perform best practices for corridor evaluate, refine Design as required) (Bent Locations, etc) limits of optimization 1.10.6 Initial design construciton. 1.10.10 Create GEOPAK Corridor(s) for of proposed 1.10.37M Right of 1.10.34M Complete District Design Team (Refine Corridor 1.10.35C Complete mainline, side roads and entrances horizontal way acquisition plan preliminary plan and design as required) Communication & 1.10.11 Consider phased construction and right of way (ROW) alignment(s) submitted to District 1.10.3C Review submit. (Refine Approved **Resolve Problems** interaction of intersecting corridors acquisition plans Right of Way Conceptual Survey Corridor design as 1.10.12 Evaluate profiles and refine Deliverables Refinement 1.22.22C Submit required) earthwork balances 1.10.13 Evaluate design exceptions and 1.10.20M Request Request for 1.10.38 Request PLS 1.10.39 Incorporate site distances geotechnical soil **Environmental** 1.10.7 Initial design Refinement Services (RES) review of right of real estate review 1.10.14 Review ditch and pavement survev of vertical Preliminary way acquisition comments into ROW 1.5.22 Setup Power drainage flow direction alignment(s) acquisition plans plans 1.10.4 Review GEOPAK files in 1.10.15 Calculate Earthwork project scope and ProjectWise design goals. (Any time this 1.10.16 Preliminary Plan Sheet Production 1.10.8 Submit bridge 1.10.27 Evaluate (Evaluate existing phase) 1.10.25 Verify and survey information and refine limits of alignments and 1.10.17 Produce preliminary Cross Section 1.10.23 Compile and adjust corridor cut 1.10.26 Evaluate profiles in request (only if a construction (with Sheets for soil survey request 1.10.24 Receive soil submit bridge change in scope corridor earthwork regards to ROW and and fill slopes to preparation for 1.10.18 Request additional survey survey information survey occurs requiring an satisfy soil survey balances easements.)(Refine initial corridor information when required report additional bridge requirements. Corridor design as design) (same as 1.22.15) survey) required) Provide Bridge Geologist District Soundings Report Provide Bridge 1.10.28 Bridge 1.10.21 Soil Survey **Survey Information** Soundings Communication & Request Soil Notify Staking **Resolve Problems** Survey Staking Complete District Survey Coordination 1.7.17M Notify Design Team that -Request Bridge Soundings Staking-Preliminary Survey 1.22P Final design 1.19P Preliminary Design Surveying Deliverables are Surveying ready. -Notify StakingComplete-+ + Right of Way Central Office 1.15.6E Review right of **Environmental & Historic Preservation Unit Central Office Geotechnical** way acquisition plan and 1.10.19P Request for Environmental Services (RES) – Preliminary Design 1.10.29 Bridge Soundings prepare acquisition + Tuesday, August 21, 2018







#### 1.22 Final Design Surveying Process Preliminary Design Phase Final Design Phase The Design Team is notified by the Survey Team when survey deliverables are Data updated. Likewise, the Survey Team is notified by the Design Team when any of ProjectWise the design data has been changed that may impact the survey workflow. Bidding and Contracts Unit District Design Team 1.15.5 Request Additional 1.15.18 Request 1.10.37M Right of Utility Staking if topography if way acquisition plan Required required for late submitted to District design change Right of Way District Right of Way Unit 1.15.22 Send TPD and Survey Manager 1.15.6E Real Estate notification of Review right of way acquisition real estate plan and prepare acquisition acquisition 1.22.3 Request staking of property Project Manager 1.15.29C Notify Design Team to Review Request Review of Deeds Electronic Design Data. Comments 1.22.13 Review Consultant District Survey Team Electronic Design 1.22.7 Collect Data and submit additional comments topography 1.22.5 Stake 1.22.1 Survey 1.22.2 Submit Review 1.22.4 Stake Proposed 1.22.6 Delineate Manager Review **ROW** for utilities comments and Exhibit Condemnation Commission deeds and complete Tracts (notify) Property Boundaries (notify) A documents Exhibit A documents 1.22.10 Provide for owners (notify) 1.22.11 Prepare 1.22.9 ROW Construction with 1.22.8 Produce combined Location Survey Plat Monumentation book and page of and file at county existing ground surface and recorded survey plat mapping (Notify Designer) Tuesday, August 21, 2018

